

A New Oriental Species of *Culicoides* Breeding in Tree Rot Cavities (Diptera: Ceratopogonidae)

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ABSTRACT

Culicoides dryadeus Wirth and Hubert, new species, is described. It was reared from wet soil in a tree hole in Selangor, Malaya.

In this paper we describe a new species of *Culicoides* Latreille to make the name available for workers reporting on biting midges in India. The description was extracted from a comprehensive revision that we have in preparation on the *Culicoides* of Southeast Asia. Our terminology was explained in papers by Wirth and Blanton (1959) and Wirth and Hubert (1959).

Culicoides dryadeus

Wirth and Hubert, new species

(Fig. 1-8)

Female.—Length of wing 0.97 mm.

Head: Eyes narrowly separated, bare. Antenna (fig. 1) with lengths of flagellar segments in proportion of 20-15-15-16-15-16-16-19-23-24-24-25-28, antennal ratio 0.95; sensoria present on segments 3, 11-15. Palpal segments (fig. 2) with lengths in proportion of 13-33-35-14-10; third segment moderately swollen subapically, with a small, round, shallow, subapical, sensory pit; palpal ratio 2.5. Proboscis moderately long, P/H Ratio 0.80; mandible with 15 teeth.

Thorax: Dark brown, without apparent pattern in slide-mounted specimen. Legs (fig. 5) dark brown, femora slightly paler at bases; femora with faint subapical pale rings, tibiae with distinct sub-basal pale rings; knee spots blackish; hind tibial comb (fig. 3) with 4 spines, the one nearest the spur longest.

Wing (fig. 4): Pattern as figured; intensely dark gray, even more so in region between radius and costa; with 4 prominent yellowish spots, a moderately large transverse spot over r-m crossvein not quite reaching costa or vein M, a small round spot on anterior margin just distad of second radial cell, a small transverse spot straddling base of media a third of distance between basal arculus and r-m crossvein, and a larger transverse spot straddling

mediocubital stem almost halfway to its fork, the latter spot sometimes absent (in one paratype) or broken into 2 spots, over mediocubital stem and over anal vein. Macrotrichia very long and abundant, reaching to base of cell M2 and anal cell abundantly; costal ratio 0.58; second radial cell moderately broad, with distinct lumen. Halter deeply infuscated.

Abdomen: Brown. Spermathecae (fig. 6) 2, ovoid with slight taper to very short, slender, sclerotized necks; subequal, each measuring 0.058 by 0.044 mm.

Male Genitalia (fig. 8).—Ninth sternum with broad, shallow, caudo-median excavation, the ventral membrane not spiculate; ninth tergum moderately long and tapered, caudal margin transverse with a pair of very long, slender, slightly flaring, apicolateral processes. Basistyle with ventral root very slender, moderately long, dorsal root longer and stouter; dististyle moderately slender, nearly straight, with bent, bluntly pointed tip. Aedeagus with basal arch extending to about a third of total length, the basal arms stout, nearly straight with ends abruptly bent caudolaterad, main portion tapering to broad distal tip with 3 small teeth. Parameres (fig. 9) each with short, laterally directed basal arm with enlarged basal knob; stem moderately swollen a short distance at base, tapering distally and straight in midportion, with fine pointed apex abruptly bent laterad and then ventrad.

Distribution.—India, Malaya, Sarawak, Sumatra, Thailand.

Types.—Holotype, female, Ampang Forest Reserve, Selangor, Malaya, 20 September 1960, C. Manikumar, reared from soil in tree hole (Type no. 71177, USNM). Allotype, male, same data but reared 28 June 1961.

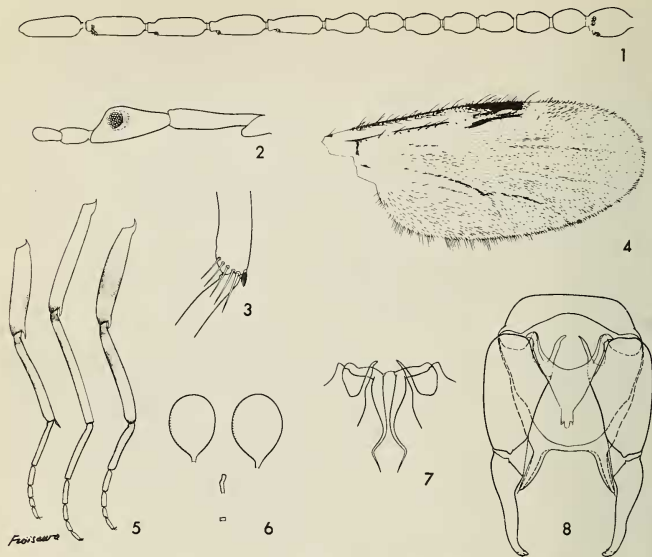


Fig. 1-8. *Culicoides dryadeus* n. sp.: 1, female antenna; 2, female palpus; 3, hind tibial comb; 4, female wing; 5, legs, left to right, fore, mid, and hind; 6, spermathecae; 7, male parameres; 8, male genitalia, parameres removed.

Paratypes, 2 males, 23 females, as follows: MALAYA: Same data except dates September 1960 and June, July, September 1961, 15 females. Subang Forest Reserve, Selangor, 4 May 1962, C. Manikumar, reared from tree hole, 2 females. INDIA: Calcutta, 3 September 1924, P. J. Barraud, 2 males, 2 females (in British Museum (Nat. Hist.), London). SARAWAK: Matang, 15 September 1958, Maa and Gressitt, at light, 1 female (Bishop Museum, Honolulu). SUMATRA: King Ke, Fairchild Coll, 1 female. THAILAND: Chiangmai, April-May 1958, V. Notananda, light trap, 1 female; July 1962, J. E. Scanlon, light trap 1 female.

Discussion.—*Culicoides dryadeus* is easily recognized by the wing pattern, intensely infuscated and with 4 distinct pale spots on the anterior and proximal portions. The

hairy wing with distinct pale spots, the antennal sensory pattern, the deep sensory pit with small pore opening on the third palpal segment, and the structure of the male genitalia identify this species as a member of the *Culicoides neavei* group. The wing pattern of *dryadeus* differs from that of members of this group, such as *bifasciatus* Tokunaga, *claggi* Tokunaga, *geminus* Macfie, *javae* Tokunaga, *mackerrasi* Lee and Røye, *marginatus* Delfinado, *neavei* Austen, and *shermani* Causey, in lacking pale spots on the distal portion and along the posterior margin.

References

- Wirth, W.W., and F.S. Blanton. 1959. Biting midges of the genus *Culicoides* from Panama (Diptera: Heleidae). Proc. U.S. Nat. Mus. 109: 237-482.
 Wirth, W.W., and A.A. Hubert. 1959. *Trithicoidea*, a new subgenus of *Culicoides* (Diptera, Ceratopogonidae). Pacific Insects 1: 1-38.